

CLAIMS

What is claimed is:

1. A stereophonic apparatus having multiple switching function, comprising;
 - an audio signal generating unit for generating an audio signal;
 - a sound signal controlling unit for outputting a sound signal to a sound signal input terminal of an external sound apparatus and controlling path of a sound signal output from a sound signal output terminal of said external sound apparatus;
 - a mixing unit for generating a mixed sound signal by mixing an audio signal input from said audio signal generating unit and a sound signal input through said sound signal controlling unit;
 - an audio amplifying unit for amplifying a mixed sound signal input from said mixing unit; and
 - an output unit for outputting a mixed sound signal amplified by said audio amplifying unit.
2. The stereophonic apparatus in claim 1, wherein said audio signal generating unit includes at least one of a radio receiving unit which generates an audio signal by receiving a radio signal and a media playing unit which generates an audio signal by playing media.
3. The stereophonic apparatus in claim 1, wherein said sound signal output from said sound signal output terminal of said external sound apparatus is an amplified signal in said external sound apparatus.
4. The stereophonic apparatus in claim 1, wherein said external sound apparatus is a mobile phone.
5. The stereophonic apparatus in claim 4, wherein said sound signal controlling unit comprises:
 - a microphone unit, having one end connected to said sound signal input terminal of said external sound apparatus and the other end grounded, which converts a voice signal to a sound signal and transmits it to said sound signal input terminal of said external sound apparatus;
 - a calling mode conversion switch, having one end connected to said sound signal input terminal of said external sound apparatus and the other end grounded, which switches an operating condition of said external sound apparatus to a calling mode or a call waiting mode;

and

a secret call switch for switching a sound signal input from said sound signal output terminal of said external sound apparatus to said mixing unit or a secret call output unit.

6. The stereophonic apparatus in claim 5, wherein said calling mode conversion switch is a tact switch.

7. The stereophonic apparatus in claim 5, wherein said microphone unit comprises;
a resistor having one end connected to said sound signal input terminal of said external sound apparatus; and
a microphone having one end connected in series to said resistor and the other end grounded, and converting a voice signal into a sound signal.

8. The stereophonic apparatus in claim 7, wherein said resistor is a variable resistor.

9. The stereophonic apparatus in claim 7, wherein said microphone unit further comprises a diode of which anode is connected in series to said one end of said resistor and cathode is connected in series to said one end of said microphone.

10. The stereophonic apparatus in claim 7, wherein said microphone unit further comprises a diode of which anode is connected to said sound signal input terminal of said external sound apparatus and cathode is connected to said one end of said resistor.

11. The stereophonic apparatus in claim 5, wherein said mixing unit includes a left mixing unit and a right mixing unit.

12. The stereophonic apparatus in claim 11, wherein said sound signal controlling unit further comprises a multiple selecting switch, having one end connected to said secret call switch and the other end connected to said left and right mixing unit, which switches a sound signal output from said sound signal output terminal of said external sound apparatus to at least one of said left and right mixing unit.

13. The stereophonic apparatus in claim 12, wherein said secret call switch and said multiple selecting switch are integrated into one switch, which is used as a secret call switch to output a sound signal output from said sound signal output terminal of said external sound apparatus through said secret call output unit when the switch is switched to a secret call, and is

used as a multiple selecting switch to output a sound signal output from said sound signal output terminal of said external sound apparatus into at least one of said left and right mixing unit when the switch is not switched to a secret call.

14. The stereophonic apparatus in claim 11, wherein said sound controlling unit further comprises a hands-free phone and sound linker selecting switch of which one end is connected to said sound signal input terminal of said external sound apparatus and the other end is switched selectively to said microphone unit or one of said left and right mixing unit.

15. The stereophonic apparatus in claim 14, wherein said external sound apparatus is an external audio apparatus, when said hands-free phone and sound linker selecting switch is switched to one of said left or right mixing unit so that said sound signal input terminal of said external sound apparatus is connected to one of said left or right mixing unit.

16. The stereophonic apparatus in claim 5, wherein said calling mode conversion switch is switches an operating condition of said external sound apparatus from a call waiting mode to a recalling mode when a predetermined number of times of calling mode conversion switching signals are input into said external sound apparatus continuously in a predetermined time in a call waiting mode.

17. An apparatus for controlling sound signal, coupled to a stereophonic apparatus and a mobile phone, comprising;

a microphone unit, having one end connected to a sound signal input terminal of said mobile phone and other end grounded, which converts a voice signal into a sound signal and transmits it said sound signal input terminal of said mobile phone;

a calling mode conversion switch, having one end connected to said sound signal input terminal of said mobile phone and other end grounded, which switches an operating condition of said mobile phone to a calling mode or a call waiting mode; and

a secret call switch for switching a sound signal input from said sound signal output terminal of the mobile phone to a mixing unit of said stereophonic apparatus or a secret call output unit.

18. The apparatus for controlling sound signal in claim 17, wherein said calling mode conversion switch is a tact switch.

19. The apparatus for controlling sound signal in claim 17, wherein said microphone unit

comprises;

a resistor having one end connected to said sound signal input terminal of said mobile phone; and

a microphone having one end connected in series to said resistor and the other end grounded, and converting a voice signal into a sound signal.

20. The apparatus for controlling sound signal in claim 19, wherein said resistor is a variable resistor.

21. The apparatus for controlling sound signal in claim 19, wherein said microphone unit further comprises a diode of which anode is connected in series to said one end of said resistor and cathode is connected in series to said one end of said microphone.

22. The apparatus for controlling sound signal in claim 19, wherein said microphone unit further comprises a diode of which anode is connected to said sound signal input terminal of said mobile phone and cathode is connected to said one end of said resistor.

23. The apparatus for controlling sound signal in claim 17, wherein said mixing unit of said stereophonic apparatus includes a left mixing unit and a right mixing unit; and

further comprises a multiple selecting switch, having one end connected to said secret call switch and the other end connected to said left and right mixing unit, which switches a sound signal output from said sound signal output terminal of said mobile phone to at least one of said left and right mixing unit.

24. The apparatus for controlling sound signal in claim 24, wherein said secret call switch and said multiple selecting switch are integrated into one switch, which is used as a secret call switch to output a sound signal output from said sound signal output terminal of said mobile phone through said secret call output unit when the switch is switched to secret call, and is used as a multiple selecting switch to output a sound signal output from said sound signal output terminal of said mobile phone into at least one of said left and right mixing unit when the switch is not switched to a secret call.

25. The apparatus for controlling sound signal in claim 23, further comprises a hands-free phone and sound linker selecting switch of which one end connected to said sound signal input terminal of said mobile phone and the other end is switched selectively to said microphone unit or one of said left and right mixing unit.

26. The apparatus for controlling sound signal in claim 25, wherein an external audio apparatus is used as a substitute for said mobile phone, when said hands-free phone and sound linker selecting switch is switched to one of said left or right mixing unit so that said sound signal input terminal of external sound apparatus is connected to one of said left or right mixing unit.

27. The apparatus for controlling sound signal in claim 17, wherein said calling mode conversion switch switches an operating condition of said mobile phone from a call waiting mode to a recalling mode when a predetermined number of times of calling mode conversion switching signals are input into said mobile phone continuously in a predetermined time in a call waiting mode.